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(54) **See-saw**

Wippe

Balançoire

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(56) References cited:  
**DE-U- 9 113 547** **GB-A- 2 118 446**  
**US-A- 2 995 367** **US-A- 3 011 825**  
**US-A- 3 044 774**

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## Description

[0001] The present invention is for a playing equipment which can also be used as an exercise equipment. The equipment is a new kind of seesaw.

[0002] Basically a seesaw is a straight board which can swing around a shaft at the middle of the board, with one person sitting on each end of the board (cf. e.g. US-A-2 995 367, GB-A-2 118 446). The seesaw has been further developed from these basic elements, both concerning the swinging function, for example combining the swing shaft with spiral springs which have an effect on the movements and by damping elements which interfere during the final stage of the movement when the outer ends of the board may hit the ground and there is a certain risk for accidents. Damping elements for this purpose may be mounted either at the outer ends of the seesaw or close to the swing shaft.

[0003] US-A-3 011 825 discloses a swing which comprises an upright support structure and a horizontal pivot. A closed circle circular member is supported by the horizontal pivot and adapted to rotate about it. There are no damping means so the circular member, the radius of which is smaller than the distances of the pivot above the ground, moves freely in all positions.

[0004] As seesaws are most often used as playing equipment for children, there are problems due to different weight of those who use the seesaw. Also in this respect the equipment has been further developed, for example by displaceable weights which compensate for the own weight of those using the seesaw.

[0005] The general object of the present invention is an equipment with more versatile possibilities of use than those of a conventional seesaw. One object of the invention thus is to create an equipment which can be used by persons of very different weights or by one person alone. Another object of the invention is to make the equipment more versatile and useful thereby that it can be used in various positions and not only for persons sitting down. A further object of the invention is to provide an equipment which fulfils the safety requirements which are put up for equipments of this kind.

[0006] The invention will be described more in detail below with reference to the preferred embodiment which is shown in the enclosed figures.

[0007] Figure 1 shows a perspective view of the equipment of the invention.

[0008] Figures 2, 3 and 4 show other views of the equipment of figure 1.

[0009] The equipment according to the invention comprises joining members 3a, 3b, the outer ends of which are joined together by sitting or standing members 1, 2. The equipment is carried by a stand which has two doubled legs 5, 6, at the upper ends of each of the legs there is a bushing 7 for shaft ends which by means of carrying members 4a, 4b carry the equipment. The swinging motion takes place around an imaginary swing shaft 8 which in practice consists of the above men-

tioned two shaft ends.

[0010] In the embodiment of the invention, shown in the figures, the joining members are two semicircular parts 3a, 3b. At their respective outer ends they are joined together by means of two cylindrical sitting or standing members 1, 2, which preferably have a surface made from a suitable plastic or rubber material in order both to eliminate the risk for slipping and to give a comfortable feeling for those using the equipment.

[0011] The semicircular parts 3a, 3b are, by means of support members 4a, 4b, carried by the two stand parts 5, 6. From the support members 4a, 4b there are protruding shaft ends along an imaginary shaft, which in figures 2 and 4 are indicated by a dashed line 8, for the swinging motion of the equipment. The shaft ends are, for example by their shape, in constant mesh with rubber bushings which form the damping means 7 and which are firmly mounted to the stand. The rubber bushing and the shaft end are known elements and bring with them a progressively increasing damping of the swinging motion when the swinging part deflects from its horizontal middle position. By this it is achieved both that the risk that the outer ends will hit the ground in practice is eliminated and that a difference in loading on the two positions 1 and 2 only means a minor displacement of the position of equilibrium for the swinging part. The equipment can thereby be used by persons having major differences in weight and even by one person alone. Also the dimensioning described below is essential in this respect.

[0012] Another advantage of the equipment according to the present invention is that it can be used in a multitude of different ways. The members 1 and 2 can be used both for sitting and standing, at which the semicircular joining members by their shape are suited for use as handles and make different positions possible. It is also possible to perform various movements and physical exercises with the equipment.

[0013] In order to achieve the proper function of the equipment certain dimensional relations are essential. Thus, the height H of the swing shaft above the ground, at which the equipment is positioned, shall be approximately the same as the linear distance D from the swing shaft to each of the two members 1, 2. This distance is also somewhat greater than the radius of the semicircular parts 3a, 3b. However, the equipment can in these and other respects be varied within the frame of the invention, for example concerning shape and choice of material. The damping influence onto the movement which is affected by the rubber bushings can also be influenced by the choice of a rubber material with properties as wanted.

## Claims

1. Seesaw for playing and exercising having one part turning around a shaft and comprising joining mem-

bers (3) for two sitting or standing members (1, 2) positioned characterized therein that the two sitting or standing members (1, 2) are situated below a horizontal plane through the shaft (8), that the joining members (3a, 3b) are essentially semicircular, open downwards and extend above the horizontal plane through the shaft (8) and that it comprises damping members (7) which exercise a continuous progressive damping of the swinging motion from a horizontal starting position for the equipment.

2. Equipment according to claim 1, characterized therein, that the linear distance (D) from a sitting or standing member to the shaft (8) is essentially the same as the height (H) of the shaft above the ground on which the equipment is placed.

à partir d'une position de départ horizontale de la balançoire.

2. Balançoire suivant la revendication 1, caractérisée en ce que la distance (D) linéaire d'un élément de station assise ou debout à l'axe (8) est sensiblement identique à la hauteur (H) de l'axe au-dessus du sol sur lequel la balançoire est disposée.

### Patentansprüche

1. Schaukelspiel- und Übungsgerät mit einem um eine Welle schwenkbaren Teil, umfassend Verbindungselemente (3) für zwei Sitz- oder Stehelemente (1, 2) die an jedem Ende des verschwenkbaren Teils angeordnet sind dadurch gekennzeichnet dass die zwei Sitz- oder Stehelemente (1, 2) unterhalb einer horizontalen Ebene durch die Welle (8) angeordnet sind, die Verbindungselemente (3a, 3b) im wesentlichen halbkreisförmig, nach unten geöffnet sind und sich oberhalb dieser Ebene durch die Welle (8) erstreckt und dass es Dämpfungselemente (7) aufweist, die eine kontinuierliche progressive Dämpfung auf die Schaukelbewegung aus einer horizontalen Ausgangsposition des Gerätes ausübt.
2. Gerät gemäss Anspruch 1, dadurch gekennzeichnet dass der lineare Abstand (D) von einem Sitz- oder Stehelement zu der Welle (8) im wesentlichen derselbe ist wie die Höhe (H) der Welle über dem Boden, auf dem das Gerät angeordnet ist.

### Revendications

1. Balançoire pour jouer et faire de l'exercice comportant une partie tournant autour d'un axe et comportant des éléments (3) de jonction pour deux éléments (1, 2) sur lesquels on s'assoit ou on se tient debout positionnés à chaque extrémité de la partie tournante, caractérisée en ce que les deux éléments (1, 2) de station assise ou debout se trouvent en dessous d'un plan horizontal passant par l'axe (8), en ce que les éléments (3a, 3b) de jonction sont sensiblement semi-circulaire, ouverts vers le bas et s'étendant au-dessus du plan horizontal passant par l'axe (8) et en ce qu'elle comporte des éléments (7) d'amortissement qui exercent un amortissement progressif continu du déplacement de balancement

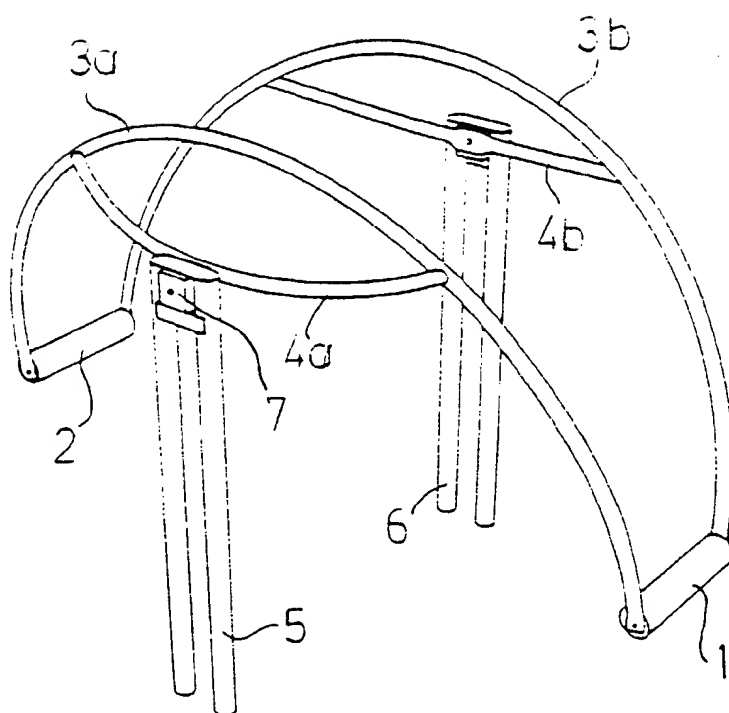


Fig 1

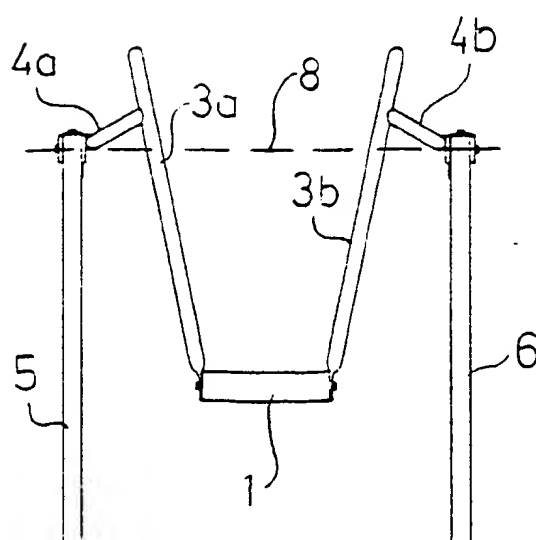


Fig 2

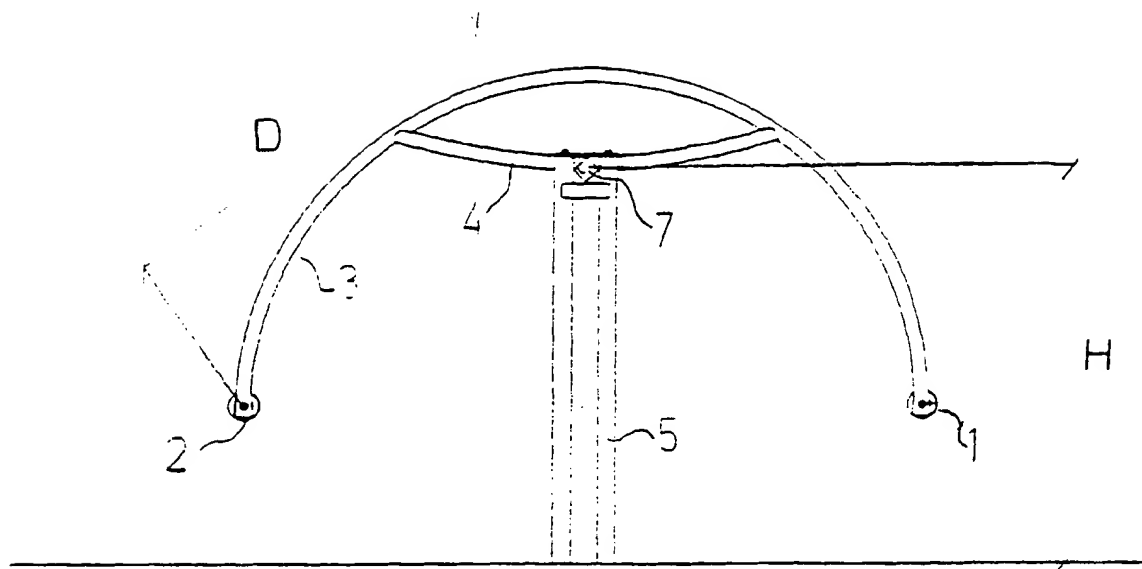


Fig 3

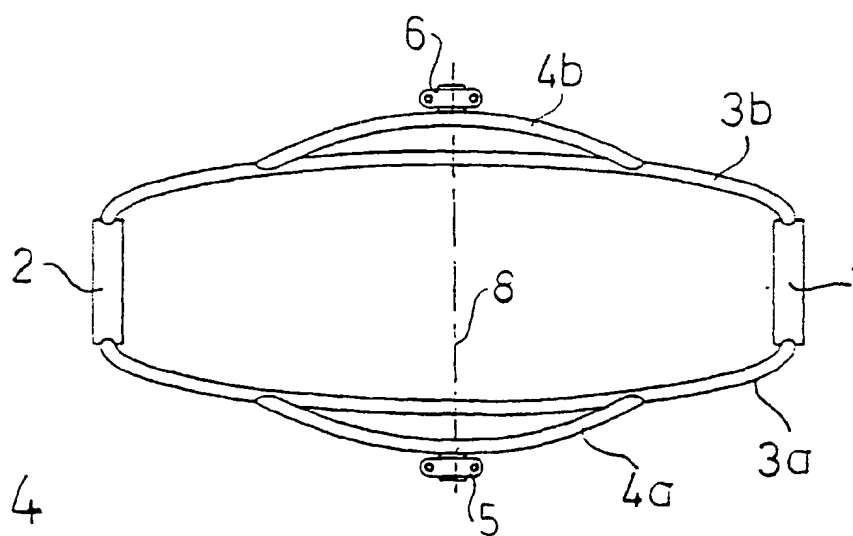


Fig 4